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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,856	11/06/2001	Hidenori Mukaida	Q67030	4383

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EXAMINER	
HSIEH, SHIH YUNG	
ART UNIT	**PAPER NUMBER**
2837	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

H

Office Action Summary	Application No.	Applicant(s)	
	09/985,856	MUKAIDA, HIDENORI	
	Examiner	Art Unit	
	Shih-yung Hsieh	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. The disclosure is objected to because of the following informalities: the word "wit" in the abstract (line 4) should be "with".

Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al. (5,738,184).

Masuda et al. disclose an engine muffler including a first expansion chamber (31) having an exhaust gas inlet (27) connecting to an exhaust gas outlet aperture (10) of an engine, a second expansion chamber (32) having an outlet of exhaust gas (60), at least one exhaust gas purifier coated with a catalyst (50) having innumerable numbers of small holes (col. 5, lines 45-46) comprising a wall of the second expansion chamber to which the engine is not installed is made of a double wall construction with a predetermined distance (37 and 42 in Fig. 1, and col. 4, lines 66-67).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al.

Regarding claim 2, Masuda et al. disclose the claimed invention except the wall to which the engine is installed being made into the double wall construction with a predetermined distance. However, Masuda et al. teach a first expansion chamber having a double wall construction (36, 41) extended to the engine with a heat insulating plate (22) between the engine and the wall to which the engine is installed. It would have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler to extend the double construction of the first expansion chamber to the wall to which the engine is installed to replace the heat plate. In fact, the Masuda et al's construction is equivalent to a double wall structure as shown in Fig. 1.

Regarding claim 4, it is obvious that when there is no particular restriction existed in gas purification concentration degree, there is no need to apply a catalyst to the first exhaust gas purifier. The recitation appears to be related to a regulation rather than a structural limitation of an invention, therefore, does not carry any patentable weight.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. in view of Fischer et al. (4,890,690).

Masuda et al. disclose the claimed invention except a heat insulating material is packed between the double wall.

Fischer et al. teach a heat insulating material (32) being packed between the double wall (29) of a muffler (8). It would have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler as taught by Fischer et al. to include except a heat insulating material is packed between the double wall for the purpose of providing high temperature resistant insulation. It would have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler as taught by Fischer et al. to include a heat insulating material packed between the double wall for the purpose of providing high temperature resistant insulation.

7. Claims 5, 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karlsson (WO99/17007) in view of Masuda et al. (5,738,184).

Regarding claim 5, Karlsson disclose an engine muffler comprising: a first expansion chamber (Figs. 3) having a chamber gas inlet aperture connecting to an engine exhaust gas outlet (Fig. 3); a second expansion chamber (Fig. 3) having a chamber gas outlet aperture (the aperture at the end of 11); a first exhaust gas purifier (2) extending between the first and the second expansion chambers (Fig. 3); a first cover plate (18), which has an inlet aperture (19), covering an upstream portion of the first exhaust gas purifier in the first expansion chamber; and a second cover plate (Fig. 3), which has an outlet aperture (the aperture connected to 11), covering a downstream portion of the first exhaust gas purifier in the second expansion chamber.

The difference between Karlsson's muffler and claim 5 is that claim 5 recites a wall of at least one of the first expansion chamber and the second expansion chamber has a double wall construction with a predetermined gap interposed therebetween.

Masuda et al. teach a first expansion chamber having a double wall construction (36, 41) extended to the engine with a heat insulating plate (22) between the engine and the wall to which the engine is installed. It would have been obvious to one having ordinary skill in the art to modify Karlsson's muffler as taught by Masuda et al. to include a double construction of the first and the second expansion chambers for the purpose of providing heat insulation.

Regarding claim 7, see statement addressed to claim 4 in item 5.

Regarding claim 8, Karlsson discloses the claimed invention including the first cover plate and the partition are of a monolithic, one piece construction as shown in Fig. 1 except that the second cover plate is fastened to the partition with a bolt and a nut.

Masuda et al. teach fastening a partition plate (40) to the expansion chambers by bolt and nut (45) for being able to take apart. It would have been obvious to one having ordinary skill in the art to modify Karlsson's muffler as taught by Masuda et al. to fasten the second cover plate to the partition with a bolt and a nut for the purpose of being able to take apart.

8. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funakoshi et al. (6,250,075) in view of Fischer et al.

Regarding claims 9 and 10, Funakoshi et al disclose the claimed invention including a second exhaust gas purifier (16) coated with a catalyst to purify the exhaust gas through a plurality of through holes (16b) provided on an uneven recessed surface of the second purifier (Fig. 1) except the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them.

Fischer et al. teach the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them. It would have been obvious to one having ordinary skill in the art to modify Funakoshi et al's muffler as taught by Fischer et al. to include the side walls of the second expansion chamber made of a double wall construction with a predetermined distance, and having a heat insulating material between them for the purpose of providing high temperature resistant insulation.

Regarding claim11, see the statement in item 5.

9. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karlsson in view of Funakoshi et al. (6,250,075) and Fischer et al.

Regarding claims 12 and 14, Karlsson discloses the claimed invention except that a second exhaust gas purifier provided in the first expansion chamber, and has an open end facing the engine exhaust gas outlet; wherein a wall of at least one of the first expansion chamber and the second expansion chamber has a double wall construction

with a predetermined gap interposed therebetween, wherein a heat insulating material is packed in the gap between the double wall..

Funakoshi et al. teach a second exhaust gas purifier (16) provided in the first expansion chamber and has an open end facing the engine exhaust gas outlet (Fig. 2).

Fischer et al. teach the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them. It would have been obvious to one having ordinary skill in the art to modify Karlsson's muffler as taught by Funakoshi et al. and Fischer et al. to include a second exhaust gas purifier in the first expansion chamber, and the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them for the purpose of providing high temperature resistant insulation.

Regarding claim 13 see statement addressed to claim 4 in item 5.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karlsson in view of Masuda et al. as applied to claim 5 above, and further in view of Fischer et al. (4,890,690).

Regarding claim 6, Karlsson in view of Masuda et al. disclose the claimed invention except a heat insulating material is provided in the gap between the double wall.

Fischer et al. teach a heat insulating material (32) being provided in the gap between the double wall (29) of a muffler (8). It would have been obvious to one having

ordinary skill in the art to modify Karlsson in view of Masuda et al's muffler as taught by Fischer et al. to include a heat insulating material in the gap between the double wall for the purpose of providing high temperature resistant insulation.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-yung Hsieh whose telephone number is 571-272-2065. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 571-272-2071. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-YUNG HSIEH
PRIMARY EXAMINER